TM7052

2 - 6 GHz 25 Watt Power Amplifier

Tricon MMIC

Product Features

High Output Power: +44 dBm
High Power Gain: 19 dB @ Pin = 25 dBm
DC Supply: +28 V @ 1100 mA
50 Ohm Matched Input/Output
Die size: 4 x 3.4 x 0.1 mm

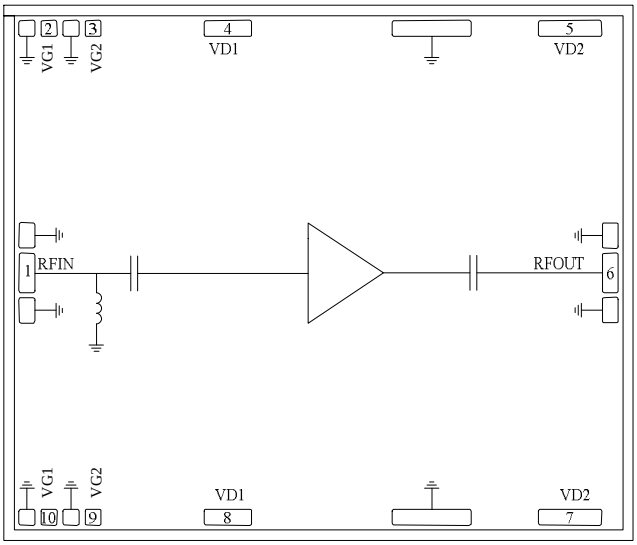
Applications

- Test Instrumentation
- Microwave Radio
- Telecommunication Infrastructure
- Radar

General Description

The TM7052 is a GaN power amplifier die which operates from 2 to 6 GHz. The amplifier delivers 44 dBm of output power with a input power of 25 dBm. The TM7052 is a 50 ohm matched design which eliminates the need for RF port matching. The die is 4 mil thick and the backside is plated for simultaneous RF and DC ground.

Functional Diagram



Electrical Specifications, VDD = 28 V, IDD = 1100 mA, T_A = 25 °C

Parameter	Min	Typ	Max	Units
Frequency Range		2 - 6		GHz
Gain		22		dB
Input Return Loss		-15		dB
Output Return Loss		-10		dB
Saturated Output Power		44		dBm
PAE		36		%

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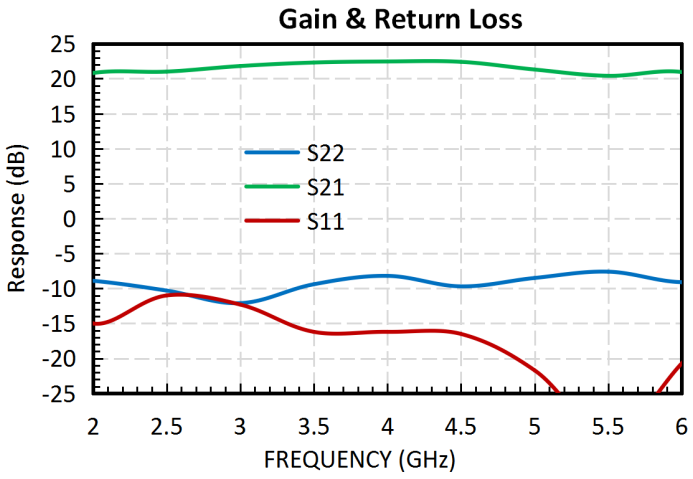
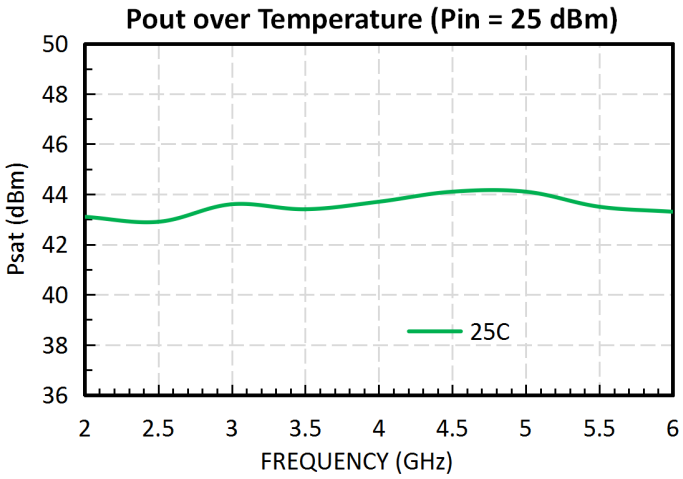
Absolute Maximum Ratings

Parameter	Rating
Storage Temperature	-55 to 150 °C
Operating Temperature	-40 to 85 °C
Drain Voltage	+32 V
Gate Voltage	-8 to 0 V
Channel Temperature	225 °C
Thermal Resistance (Channel to die bottom)	2.9 °C/W

Recommended Operating Conditions

Parameter	Min	Typ	Max	Units
VDD		28		V
IDD		1100		mA





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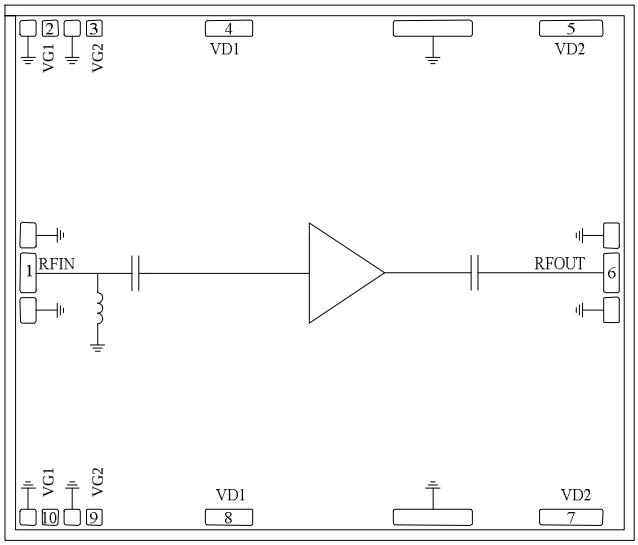
Pin Description



Pad	Function	Description
1	RFIN	50 Ohm matched input
2, 10	VG1	Gate control for stage 1
3, 9	VG2	Gate control for stage 2
4, 8	VD1	Drain supply for stage1
5, 7	VD2	Drain supply for stage 2
6	RFOUT	50 Ohm matched output

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Assembly Diagram